

This listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. (Canceled)
2. (Currently amended) ~~[[The]]~~An integrated optic polarization converter of claim 1 comprising:  
a plurality of core layers configured to approximate a gradually twisted waveguide and  
therein adiabatically transform a propagating mode from an initial polarization state to a different  
final polarization state,  
wherein at least one of said core layers is tapered along a length of the polarization converter.
3. (Currently amended) The polarization converter of claim ~~[[1]]~~2, wherein said at least one of said core layers is tapered linearly along ~~[[a]]~~the length of the polarization converter.
4. (Currently amended) ~~[[The]]~~An integrated optic polarization converter of claim 1 comprising:  
a plurality of core layers configured to approximate a gradually twisted waveguide and  
therein adiabatically transform a propagating mode from an initial polarization state to a different  
final polarization state,  
wherein said plurality of core layers consists of two core layers.
- 5.-6. (Canceled)
7. (Currently amended) ~~[[The]]~~An integrated optic polarization converter of claim 1 comprising:  
a plurality of core layers configured to approximate a gradually twisted waveguide and  
therein adiabatically transform a propagating mode from an initial polarization state to a different  
final polarization state,

wherein said core layers are separated laterally along a length of the polarization converter.

8. (Canceled)

9. (Currently amended) ~~[[The]]~~ A method of ~~claim 8~~ using an integrated optic polarization converter, said method comprising:

receiving an initial polarization state; and  
forming a plurality of core layers configured to approximate a gradually twisted waveguide and therein adiabatically transform a propagating mode from said initial polarization state to a different final polarization state,

wherein at least one of said core layers is tapered along a length of the polarization converter.

10. (Canceled)

11. (Currently amended) ~~[[The]]~~ A method of ~~claim 8~~ using an integrated optic polarization converter, said method comprising:

receiving an initial polarization state; and  
forming a plurality of core layers configured to approximate a gradually twisted waveguide and therein adiabatically transform a propagating mode from said initial polarization state to a different final polarization state,

wherein said plurality of core layers consists of two core layers.

12.–14. (Canceled)

15. (Currently amended) The polarization converter of claim ~~[[1]]~~ 2 wherein each core layer is tapered along ~~[[a]]~~ the length of the polarization converter.

16. (Currently amended) The polarization converter of claim ~~[[1]]~~4, wherein said ~~plurality of core layers consists of~~ two core layers are both tapered along a length of the polarization converter.

17. (Previously presented) The polarization converter of claim 16, wherein a tapering of one of the two core layers is opposite to a tapering of the other of the two core layers along the length of the polarization converter.

18. (Canceled)

19. (New) The polarization converter of claim 7 wherein at least one of said core layers is tapered along the length of the polarization converter.

20. (New) The polarization converter of claim 7 wherein said plurality of core layers consists of two core layers.

21. (New) The polarization converter of claim 7 wherein said plurality of core layers comprises no more than three core layers.

22. (New) The polarization converter of claim 7 wherein a cross section of a certain number of said core layers is maintained constant along the length of the polarization converter.

23. (New) The polarization converter of claim 2 wherein said plurality of core layers consists of two core layers.

24. (New) The polarization converter of claim 2 wherein said plurality of core layers comprises no more than three core layers.

25. (New) The polarization converter of claim 2 wherein a cross section of a certain number of said core layers is maintained constant along the length of the polarization converter.